



Energy & Environmental Initiatives Q3 FY11

Board of Supervisors General Business Meeting

April 18, 2011





Energy & Environmental Program

Energy & Environmental Program and Policy Administrator

- Hired; effective 04/11/2011
- Weekly Updates

Energy Efficiency & Conservation Block Grant (EECBG) Program (Steele)

Energy & Environmental Achievements (Salehi)

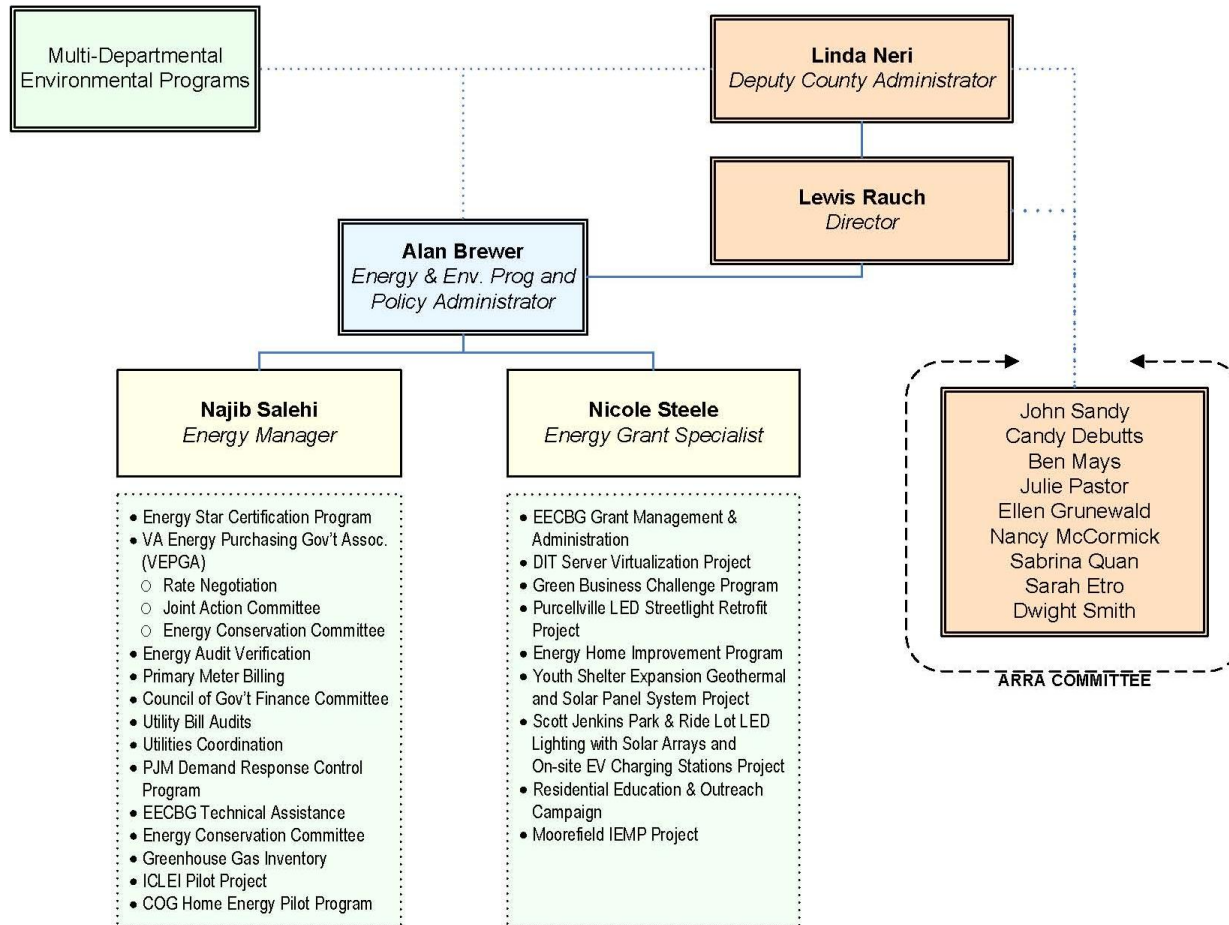
Energy & Environmental Initiatives (Salehi)





Energy & Environmental Program

Organization Structure for Energy & Environmental Effort/Initiatives





EECBG - Construction Projects

Purcellville LED Streetlight Retrofit



Project Goals

- Install 42 LED lights along Main Street in Purcellville
- Reduce Greenhouse Gases
- Reduce Energy Consumption
- Estimated 3 full-time manufacturer, delivery, and installation jobs will be created through duration of the project

Project Budget \$40,000



Update

- Installation completed in early March 2011





EECBG - Construction Projects

Energy Home Improvement Program



Project Goals

- Energy Home Improvement Retrofits & Upgrades
- Reduce Energy Consumption
- Reduce Energy Costs
- Reduce Greenhouse Gases
- Estimated 5 full-time jobs will be created through duration of the project

Project Budget \$175,000

Update

- Five homes will receive grants of approximately \$30,000 in conjunction with County's existing Home Improvement Program
- Construction commenced mid-March 2011





EECBG - Construction Projects

Youth Shelter Expansion - Solar Panels



Project Goals

- Install 23 kW Solar Panels
- Reduce Greenhouse Gases
- Reduce Energy Consumption
- Reduce Energy Costs
- Estimated 5 full-time jobs will be created through duration of the project

Project Budget \$150,000

Update

- Contract awarded to Standard Solar, Inc.
- Installation scheduled to begin in June 2011





EECBG - Construction Projects

7

LED Solar Lights, Electric Vehicle Charging Stations



Project Goals

- 24 LED Lights
- 5 Electronic Vehicle Charging Stations (EVCS)
- Reduce Energy Consumption
- Reduce Greenhouse Gases
- Estimated 5 full-time jobs will be created through duration of the project

Project Budget \$300,000

Update

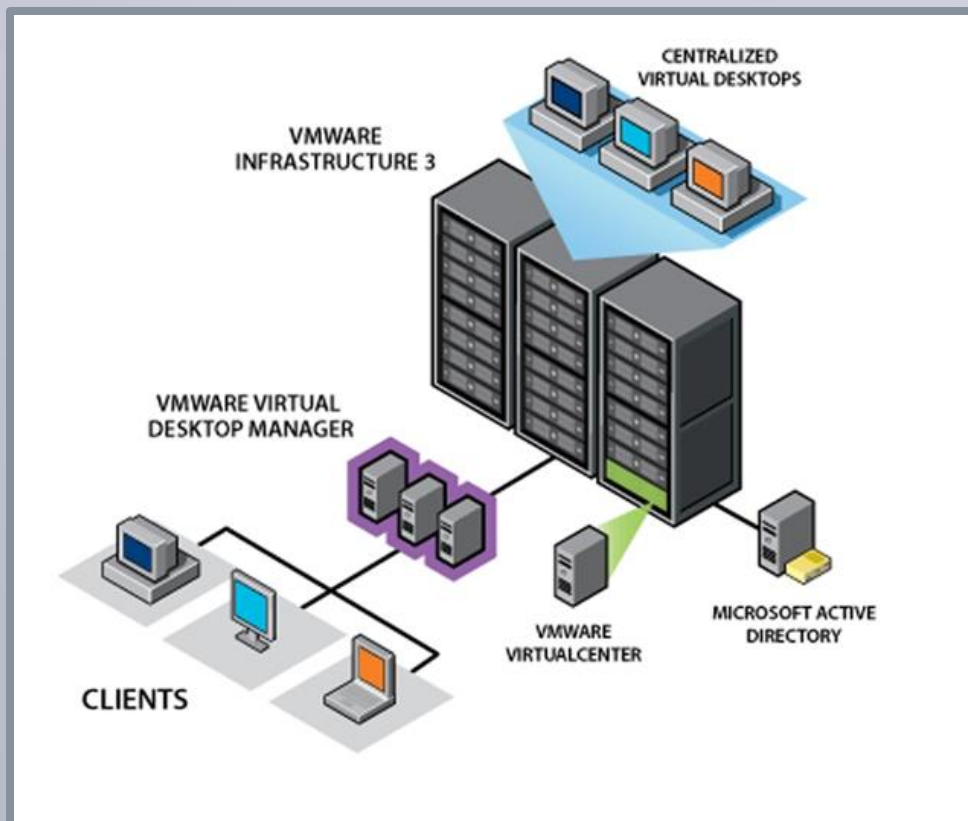
- Contract awarded to MC Dean, Inc.
- Construction scheduled to begin in April 2011
- EVCS will be available to County residents mid-Summer 2011





EECBG - Construction Projects

DIT Server Virtualization



Project Goals

- Installation of five (5) virtual servers at DIT
- Reduce Energy Consumption
- Reduce Energy Costs
- Reduce Greenhouse Gases
- Estimated 2 full-time jobs will be created through duration of the project

Project Budget \$250,000

Update

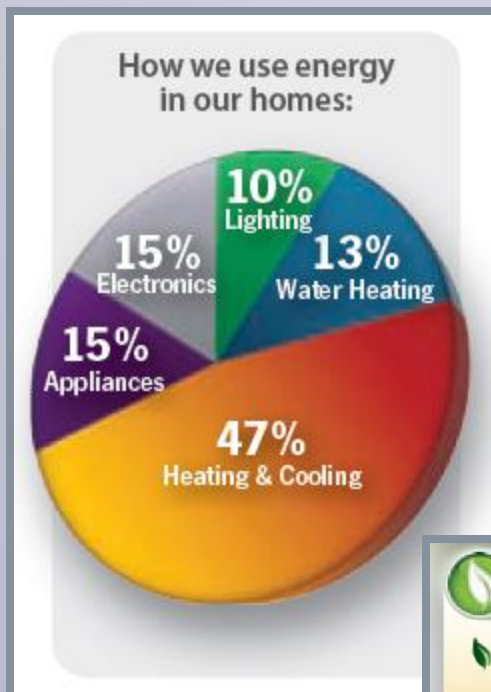
- Installation of new servers scheduled to be completed in April 2011





EECBG - Outreach Projects

Residential Education & Outreach Campaign



Project Goals

- Increase Energy Awareness
- Reduce Greenhouse Gases
- Reduce Energy Consumption
- Reduce Energy Costs
- Estimated 5 full-time jobs were created through the duration of the project

Project Budget \$300,000

\$75,000 ABC7 Partnership

\$30,000 allocated for mailing of Energy Smart Solutions guide

Update

- Contract awarded to Sustainable Design Consulting, LLC
- Project kick-off held in late March 2011
- Energy Smart Solutions guide mailing targeted for June 2011





EECBG - Outreach Projects

Loudoun County Green Business Challenge



Project Goals

- Increase awareness
- Reduce greenhouse gas emissions
- Reduce energy consumption
- Estimated 3 full-time jobs will be created through the duration of the project

Project Budget \$100,000



Update

- Contract awarded to Sustainable Design Consulting LLC to enhance the Green Building Challenge
- Staff kick-off meeting was held in late March 2011







Energy & Environmental Achievements

Dominion Virginia Power Contract Renewal through VEPGA

- Contract extension, 3.5 years: January 1, 2011- June 30, 2014
- Total VEPGA members annual increase = \$25 million = 16% increase
 - 7% due to 2011 contract renegotiation
 - 9% due to fuel factor increase







Energy & Environmental Achievements

Emergency Homeless Shelter Solar Project Results

- Installation date: November 2009
- 17,301 kWh = 26,700lb of CO₂ reduction

| Co2 Reduction (lb) | 26,700 |
|---|--------|
| Equivalents | |
| Number of cars removed from the roads for a year  | 2 |
| Acres of trees planted  | 4 |





Energy & Environmental Initiatives

COG Home Energy Challenge Pilot

COG Residents Outreach Campaign

Three (3) Communities Selected to Participate

- Cascades, Virginia, 143 households participated, 55 w/linked utility accounts
- Greenbelt, Maryland, 103 households participated, 55 w/linked utility accounts
- Brookland, Wash. DC, 114 households participated, 35 w/linked utility accounts

Residents, in and outside the pilot community areas, are encouraged to join, save energy and benefit from the reward program by registering at

www.WeCanSaveEnergy.org

Pilot challenge program ended
on March 31, 2011





Energy & Environmental Initiatives

ICLEI Virginia **Green** Community Challenge Pilot

Purpose: Outline a Green Community Challenge

Pilot Participants:

- County of Loudoun
- City of Blacksburg
- City of Norfolk
- City of Roanoke



Pilot ends October 2011

Available to all Virginia jurisdictions in January 2012

Complements the Education & Outreach Residents/Businesses
EECBG funded project initiatives





Energy & Environmental Initiatives

PJM Demand Response through Energy Connect

Purpose: Receive standby payments for being ready to reduce when the power grid initiates an emergency energy reduction event

Terms:

- Earn \$34,233 per megawatt
- No penalty for not complying
- Time of event: 12:00 noon - 8:00 PM (no weekends)
- Duration of curtailment: up to 6 hours
- Fuel cost recovery for diesel expenses



Since 2008, only one event called (July 10, 2010)
Part of the State Contract





Energy & Environmental Initiatives

Energy Audits Outcome

| | Facility Name | Dollar Savings |
|---|--------------------------------|----------------|
| 1 | Claude Moore Recreation Center | \$35,291 |
| 2 | DIT | \$16,977 |
| 3 | Fire Rescue Training Academy | \$12,973 |
| 4 | Government Center | \$37,941 |
| 5 | Judicial Complex | \$26,163 |
| 6 | Historic Courthouse | \$ 2,194 |
| 7 | Shenandoah Bldg. | \$12,995 |
| | Total Savings | \$144,534 |





NACo Energy Efficiency Conference

County's presentation on Increasing Economic Competitiveness through County-wide Energy Management

Event was held on
January 20th & 21st in Los Angeles

www.naco.org/2011EnergyForum

Attendees: EECBG Recipients





Applied Solutions



The County became a member of Applied Solutions a non-profit organization based in Boulder, Colorado

Applied Solutions connects local government officials with each other and partners such as energy and research laboratories, academic institutions, private sector and non-profit organizations to look at new ways to minimize impacts on water, energy, transportation and land use.

